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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,295	03/03/2004	Yoshinobu Suehiro	PTGF-03109	3532

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EXAMINER

ARENA, ANDREW OWENS

ART UNIT	PAPER NUMBER
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2811

MAIL DATE	DELIVERY MODE
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01/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/791,295	SUEHIRO ET AL.	
	Examiner	Art Unit	
	Andrew O. Arena	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 26-42 is/are pending in the application.
- 4a) Of the above claim(s) 7-11, 36 and 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 26-35, 37-39, 41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


LYNNE GURLEY
SUPERVISORY PATENT EXAMINER
AV2811, TC2500

Attachment(s)

- | | |
|--|---|
| <p>1) <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|--|---|

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination, for which this application is eligible, under 37 CFR 1.114, including timely payment of the fee set forth in 37 CFR 1.17(e), was filed (on 10/31/2007) after final rejection. The finality of the previous Office action has been withdrawn. Applicant's submission filed on 09/28/2007 has been entered.

Election/Restrictions

Claims 7-11, 36 and 40 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirement in the reply filed on 09/28/2007.

The traversal is on the grounds that "this is nonsense" (reply pg 8, § II, ln 2), "this is completely unreasonable" (reply pg 9 ln 4), and "claims should be constructed in light of the specification" (reply pg 9 ln 7). This is not found persuasive because sensible and reasonable explanation of the restriction requirement, consistent with the MPEP has been presented. Limitations from the specification are not read into the claims.

Originally presented process claims were not distinct from originally presented product claims; the amendment filed 04/17/2007 introduces a specific, distinct, and burdensome method step ("pre-molded") which had never received action on the merits. The office generally does not permit shift (from apparatus to method), see MPEP § 819.

Such situations are specifically addressed in 37 CFR 1.145, which states that "applicant will be required to restrict the claims to the invention previously claimed if the amendment is entered". See also 37 CFR 1.142(b) and MPEP § 821.03.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

Claims 1, 2, 4, 26, 33-35, 37-39, 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Lowery (5,959,316).

RE claim 1, Lowery discloses (Figs 1&4) a light emitting apparatus, comprising:
a semiconductor light emitting element (18, col 2 ln 8) that is mounted on an electrode (where wires connect to 62) and emits light with a predetermined wavelength;
a light-transmitting portion (68) that includes a recess to house the semiconductor light emitting element (60, col 2 ln 41-42), the light-transmitting portion comprising a light-transmitting material (col 2 ln 44-45) and being affixed to said electrode by a sealant (64, col 2 ln 43-44) formed on the light emitting element; and
a phosphor layer portion (66, col 2 ln 44-45) that is formed on a surface of the recess, the phosphor portion including a phosphor to be excited by irradiating light emitted from the semiconductor light emitting element.

The limitation "pre-molded" does not impart patentability since the product in the product-by-process claim is the same as that of the prior art. See MPEP § 2113.

RE claim 2, Lowery discloses (Fig 1) the light-transmitting portion has a light convergence shape (26) to converge light emitted from the light emitting element.

RE claim 4, Lowery discloses the recess is located close to the semiconductor light emitting element along the profile of the semiconductor light emitting element.

RE claim 26, Lowery discloses said sealant comprises a transparent silicon resin (understood as encompassed by col 3 ln 21-23, since silicon is well-known UV resin).

RE claim 33, Lowery discloses said light emitting element emits light having a wavelength in a range from 450nm to 480nm (col 1 ln 21-22, col 2 ln 10-14).

RE claim 34, Lowery discloses said phosphor layer portion comprises Ce:YAG (col 2 ln 17-20, col 4 ln 65, col 6 ln 9-11).

RE claim 35, Lowery discloses said phosphor layer portion comprises a uniform thickness (col 3 ln 30-34).

RE claim 37, Lowery discloses (Figs 1&4) a light emitting apparatus, comprising:
a light emitting element (18, col 2 ln 8) that is mounted on an electrode (where wires connect to 62) and emits light with a predetermined wavelength;

a lens (68, also 28 in Fig 1, col 1 ln 59-67) comprising a recessed portion which has a predetermined size, said light emitting element being housed in said recessed portion such that said lens is formed over said light emitting element; and

a phosphor layer (66; col 2 ln 44) formed on a surface of said recessed portion, said phosphor layer including a material (col 2 ln 19) which is excited by light emitted from the light emitting element,

wherein a sealant (64; col 2 ln 43) is formed between said light emitting element and said phosphor layer, for sealing said light emitting element, and

wherein said lens is affixed to said electrode by said sealant.

The limitation "pre-molded" does not impart patentability since the product in the product-by-process claim is the same as that of the prior art. See MPEP § 2113.

RE claim 38, Lowery discloses said phosphor layer portion comprises an inner surface having a shape dependent upon a shape of said recess (col 3 ln 26-34).

RE claim 39, Lowery discloses said light-transmitting portion further comprises a positioning portion to allow said pre-molded light-transmitting portion to be precisely positioned, to said semiconductor light emitting element.

RE claim 41, Lowery discloses said recess comprises a predetermined size which is other than defined by a thickness of said phosphor layer portion. Functional language does not structurally distinguish from applied art. See MPEP § 2114.

RE claim 42, Lowery discloses said recess comprises a predetermined size which is other than defined by a thickness of said phosphor layer portion. Functional language does not structurally distinguish from applied art. See MPEP § 2114.

Claim Rejections - 35 USC § 103

Claims 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery as applied to claim 1 above, and further in view of Roberts (US 6,335,548).

RE claim 3, Lowery discloses the semiconductor light emitting element is an LED element that emits light from its light emission surface located on the opposite side of its mounting surface.

Lowery differs from the claimed invention only in not expressly disclosing a flip-chip type LED.

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Roberts teaches the use of a flip-chip type LED (col 20 ln 15-37).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made that the LED of Lowery is a flip-chip type LED, as taught by Roberts; at least to extend operation (Roberts: col 20 ln 33-37).

RE claim 5, Lowery differs from the claimed invention only in not disclosing a plurality of LED elements.

Roberts teaches (Fig 19) a plurality of LED elements (col 29 ln 64-65).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Lowery in view of Roberts such that the semiconductor light emitting element is composed of a plurality of LED elements disposed in a predetermined arrangement; at least to produce light of any color desired (Roberts: col 30 ln 12-20).

RE claim 6, Lowery differs from the claimed invention only in not disclosing a plurality of LED elements.

Roberts teaches (Fig 19) a plurality of LED elements (col 29 ln 64-65) with different emission wavelengths (col 30 ln 12-14).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Lowery in view of Roberts such that the semiconductor light emitting element is composed of a plurality of LED elements with different emission wavelengths disposed in a predetermined arrangement; at least to produce light of any color desired (col 30 ln 12-20).

Claims 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowery as applied to claim 1 above, and further in view of Chen (US 6,531,328).

RE claim 27, Lowery differs from the claimed invention only in not expressly disclosing how contact to the wires of the light emitting apparatus is made.

Chen discloses (Fig 14) a plurality of leads (17, 18) and a submount (8) formed on said plurality of leads, said light emitting element (3) being formed on said submount.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made that Lowery use a connection structure similar to Chen, comprising a plurality of leads and a submount formed on said plurality of leads, said light emitting element being formed on said submount; at least to allow electrical connection to the apparatus of Lowery.

RE claim 28, Lowery as modified above discloses said submount comprises a thermally conductive submount (Chen: col 5 ln 66).

RE claim 29, Lowery as modified above discloses said light transmitting portion is formed (indirectly) on said plurality of leads, said recess being aligned with said light emitting element.

RE claim 30, Lowery as modified above discloses (Chen: Fig 14) a wiring pattern (17a) formed on said submount, said light emitting element (3) being mounted on said wiring pattern.

RE claim 31, Lowery as modified above discloses (Chen: 14) said light emitting element is flip-chip bonded through bumps (21) onto the wiring pattern.

RE claim 32, Lowery as modified above discloses (Chen: Fig 8) said submount (8) comprises a viahole (14) said wiring pattern (17a) being electrically connected though said viahole (col 5 ln 37-38) to said lead (17).

Response to Arguments

The arguments filed 09/28/2007, insofar as they apply to the new grounds of rejection, have been fully considered but are not persuasive.

Arguments against Juestel are moot since that reference is no longer relied on.

The arguments that the references are "unrelated" are made by selecting and comparing certain limiting portions of the disclosures as if said portions defined the field of endeavor of their respective references. It is submitted that the field of endeavor of applicant's invention and every single cited reference is packaging of LEDs.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew O. Arena whose telephone number is 571-272-5976. The examiner can normally be reached on M-F 8:30-5.

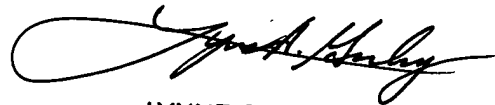
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne A. Gurley can be reached on 571- 272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. For more info about PAIR, see <http://pair-direct.uspto.gov>. For questions PAIR access, contact the Electronic Business Center at 866-217-9197 (toll-free). For assistance from a USPTO Customer Service Rep or access to the automated info system, call 800-786-9199 or 571-272-1000.



Andrew O. Arena
7 January 2008



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